

SunShot PV Poster Crawl – IEEE-PVSC 2017

Please present your poster at the numbered location indicated next to your poster below. Thank you for joining us!

No.	Title	PI and Lead Institution	Funding Program
1	Optimized, low-cost, >30% efficient InGaAsP/Si tandem solar cells	Aaron Ptak, NREL	Next Gen PV 3
2	High-efficiency, low-cost, one-sun, III-V photovoltaics	Aaron Ptak, NREL	SuNLaMP
3	On the photovoltaic response in epitaxial BaTiO ₃ films	Adrian Podpirka, Drexel	Postdoc Research Award
4	Pushing the efficiency limit of low-cost, industrially-relevant silicon solar cells by advancing cell structures and technology innovations	Ajeet Rohatgi, Georgia Tech	PVRD
5	Theoretical design and discovery of most promising previously overlooked hybrid perovskites compounds	Alex Zunger, University of Colorado	SIPS
6	Rapid development of ZnSnN ₂ as a new PV absorber	Andriy Zakutayev, NREL	SuNLaMP
7	In-situ x-ray nanocharacterization of defect kinetics in chalcogenide solar cell materials	Mariana Bertoni, ASU	BRIDGE
8	Low temperature spalling of silicon: a crack propagation study	Mariana Bertoni, ASU	SIPS
9	Defect kinetics and control for module reliability	Mariana Bertoni, ASU	PVRD
10	Effects of CdCl ₂ treatment on the local electronic properties of polycrystalline CdTe measured with photoemission electron microscopy	Calvin Chan, Sandia	BRIDGE
11	Non-destructive measurement of water ingress in photovoltaic modules	Mihail Bora, LLNL	PREDICTS 2
12	Low cost tool design for cell and module fabrication with thin, free-standing silicon wafers	Tonio Buonassisi, MIT	PVRD
13	Manipulating the alignment and optical environment of high quantum yield nanocrystal emitters for high efficiency luminescent solar concentrators	Carissa Eisler, LBNL	Postdoc Research Award
14	Simulating PV system performance with component reliability distributions	Geoff Klise, Sandia	SuNLaMP
15	Study of PV module degradation rate prediction through correlation of field-aged and accelerated-aged module degradation data	Cara Libby, EPRI	PREDICTS 2
16	Renewable energy for sustainable cities	Deborah Sunter, UC-Berkeley	Postdoc Research Award
17	Thermal stability of hydrogenated boron emitters	Douglas Hutchings, Picasolar	Tech-to-Market
18	Crystal growth phenomena in polycrystalline CuZnTe/CdTe/CdS via molecular dynamics	David Zubia, UTEP	BRIDGE
19	Electroluminescent refrigeration enabled by efficient light-emitting diodes and photovoltaics	Eli Yablonovitch, UC-Berkeley	BAPVC
20	Selective area growth III-V semiconductors on Si patterned using nanoimprint lithography	Emily Warren, NREL	Next Gen PV 3
21	Improved performance of Cu(InGa)(SeS) ₂ PV modules using the reaction of metal precursors	William Shafarman, U. of Delaware	PVRD
22	Identification and analysis of partial shading breakdown sites in CuIn _x Ga _(1-x) Se ₂ mini-modules	Steve Johnston, NREL	SuNLaMP
23	Photoluminescence-imaging-based evaluation of non-uniform CdTe degradation	Steve Johnston, NREL	SuNLaMP
24	Sputter-deposited oxides for interface passivation of CdTe photovoltaics	Jason Kephart, Colorado State	SIPS
25	GaAsP/Si tandem solar cells: pathway to low-cost, high-efficiency photovoltaics	Tyler Grassman, OSU	PVRD
26	Development of near-field transport imaging	Helio Moutinho, NREL	SuNLaMP
27	Thin-absorber CdTe solar cells	James Sites, Colorado State	PVRD
28	Developing stable halide perovskites: from materials to devices	Jeffrey Christians, NREL	Postdoc Research Award
29	Cross-cutting recombination metrology for expediting V _{oc} engineering	Jian Li, Texas State	PVRD
30	Performance of bifacial photovoltaic modules and systems	Josh Stein, Sandia	SuNLaMP
31	Backsheet: correlation of long-term field reliability with accelerated laboratory testing	Ken Boyce, Underwriters Labs	PREDICTS 2

32	Potential for high work function metal oxides as hole-selective, passivated rear contacts in silicon photovoltaic cells	Kris Davis, UCF	PVRD
33	Addressing soiling: from interface chemistry to practicality	Lin Simpson, NREL	SuNLaMP
34	Rational design of wide band gap buffer layers for high-efficiency thin-film photovoltaics	Vincenzo Lordi, LLNL	BRIDGE
35	Advances in the modeling of all-sky radiative transfer for solar energy applications	Manajit Sengupta, NREL	SuNLaMP
36	Thermally conductive backsheets (TCB) for reduced module operating temperatures	Govindasamy Tamizhmani, ASU	PVRD
37	Correlation of accelerated testing with field degradation	Govindasamy Tamizhmani, ASU	PREDICTS 2
38	New transparent metals	Michael Yeung, Northwestern	Postdoc Research Award
39	Defining threshold values of encapsulant and backsheet adhesion for PV module reliability	Nick Bosco, NREL	SuNLaMP
40	High temperature stable and efficient silicon solar absorbers	Peter Bermel, Purdue	BAPVC
41	Development of aluminum epilayers as buffers for GaInAs	Phil Ahrenkiel, SDSMT	PVRD
42	Mapping the market value of solar energy at high spatial resolution across the US	Patrick Brown, MIT	Postdoc Research Award
43	Overcoming bottlenecks to low-cost, high-efficiency Si PV	Pauls Stradins, NREL	SuNLaMP
44	Module level exposure and evaluation test (MLEET) for real-world & laboratory-based PV modules: common data and analytics for quantitative cross-correlation and validation	Roger French, CWRU	PREDICTS 2
45	Lifetime and degradation science of PERC technology: simultaneous optimization of lifetime, efficiency, cost	Roger French, CWRU	BAPVC
46	New approaches to low-cost scalable doping for interdigitated back contact crystalline silicon solar cells	Sumit Agarwal, CSM	PVRD
47	Photoexcited carriers, phonons, and their scattering measured in semiconductor junctions by transient extreme ultraviolet spectroscopy	Scott Cushing, WVU	Postdoc Research Award
48	GaAs 1J solar cells on non-semiconductor substrates	Venkat Selvamamickam, Houston	Next Gen PV 3
49	Color-matched solar panels	Anthony Occidentale, Sistine Solar	Tech-to-Market
50	Pushing the limits of silicon heterojunction solar cells: demonstration of 26% efficiency and improving electrical yield	Stuart Bowden, ASU	PVRD
51	Rapid laser-based patterning and advanced device structures for low cost manufacturable crystalline Si interdigitated back contact (IBC) cells	Steven Hegedus, U. of Delaware	PVRD
52	DuraMAT – Foundational research into materials durability, module design, and predictive accelerated testing	Margaret Gordon, NREL	DuraMAT
53	The DuraMAT Capability Network	Dave Ginley, NREL	DuraMAT
54	Self-Assembled silane modifiers on Cu(InGa)Se ₂ - a probable pathway towards extreme durability PV	Timothy Peshek, CWRU	PVRD
55	Unified numerical solver for device metastabilities in CdTe thin-film PV	Dragica Vasileska, ASU	PREDICTS
56	Solution for predictive physical modeling in CdTe and other thin-film PV technologies	Dragica Vasileska, ASU	PVRD
57	Silicon-based tandem solar cells	Adele Tamboli, NREL	SuNLaMP
58	Monolithic silicon module manufacturing at < 0.40 \$/W	Zachary Holman, ASU	PVRD
59	A new class of tandems: optically coupled III-V/silicon module with outdoor efficiency exceeding 30%	Zachary Holman, ASU	SIPS
60	15%-efficiency (Mg,Zn)CdTe solar cells with 1.7 eV bandgap for tandem applications	Zachary Holman, ASU	PVRD
61	Comminution and electrodynamic eddy current separation studies of end-of-life PV materials	York Smith, U. of Utah	Postdoc Research Award
62	High efficiency anti-reflective coating for PV module glass	Corey Thompson, WattGlass	T2M